**AMENDMENTS TO THE SPECIFICATION**

Please delete the original Abstract and replace its entirety with the new Abstract attached herewith on a separate sheet.

*Please replace the paragraph beginning on page 19, line 12 with the following paragraph:*

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In a column body serving as a shell of the coupling-type distillation column 10, a partition 21 has a top section 22 which divides the fourth section 14 into a first chamber 14A and a second chamber 14B; a middle section ~~partition~~ 23 which divides the fifth section 15 into a first chamber 15A and a second chamber 15B; and a bottom section ~~partition~~ 24 which divides the sixth section 16 into a first chamber 16A and a second chamber 16B. The first chambers 14A-16A are adjacent to the second chambers 14B-16B, respectively. The first chambers 14A-16A constitute a first distillation section 25; the first. section 11, the second section 12, the third section 13, end the second chamber 14B constitute a second distillation section 26; end the second chambers 15B and 16B, the seventh section 17, the eighth section 18, and the ninth section 19 constitute a third distillation section 27.

*Please replace the paragraph beginning on page 19, line 24 with the following paragraph:*

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Notably, the partitions 21 ~~22-24~~ can be made heft insulating through employment of a design such that the partitions 21 ~~22-24 are~~ is formed of an insulating material or a design such that the interiors of the partitions 21 ~~22-24 are~~ is made vacuum. In this

case, since there can be reduced heat transmission between the first chamber 14A aid the second chamber, 14B, between the first chamber 15A and the second chamber 15B, and between the first chamber 16A and the second chamber 16B, the efficiency of distillation can be enhanced.

*Please replace the paragraph beginning on page 26, line 19 with the following paragraph:*

The distributor 61 includes an unillustrated distribution section for distributing liquid in a direction perpendicular to the ~~partition~~ top section 22 and is adapted to make the amount of liquid fed to an upper portion of the first chamber 14A (hereinafter called a "first-chamber upper-portion") and the amount of liquid fed to an upper portion of the second chamber 14B (hereinafter called a "second-chamber upper-portion") differ from each other.

*Please replace the paragraph beginning on page 29, line 18 with the following paragraph:*

The distributor 61 includes a first distribution section 77 for distributing liquid in a direction perpendicular to the partition 22; and a second distribution section 78 disposed just under the first distribution section 77 and adapted to distribute liquid distributed by the first distribution section 77, in the same direction as that of the ~~partition~~ top section 22. Thus, the liquid can be distributed uniformly over the entire fourth section 14.

*Please replace the paragraph beginning on page 30, line 23 with the following paragraph:*

The first distribution section 77 includes two open static-pressure-type main channels 77a and 77b, which are opened upward and formed adjacent to each other. The main channels 77a and 77b extend across and over the ~~partition~~ top section 22. A plurality of holes 81 are formed in the bottom of each of the main channels 77a and 77b in a matrix manner. Through appropriate selection of the diameter and number of the holes 81, the distribution ratio is set to, for example, 4:6 or 2:8.

*Please replace the paragraph beginning on page 36, line 7 with the following paragraph:*

As shown in the drawings, the distributor 63 includes an open static-pressure-type stand pipe 155, which extends vertically, opens upward, and is adapted to establish a predetermined head through accumulation of liquid discharged from the collector, 62 (FIG. 1); a main header 177, which serves as the first distribution section for distributing liquid in a direction perpendicular to the ~~partition~~ middle section 23; and a plurality of arm tubes 178, which are connected to the main header 177 and serve as the second distribution section for distributing liquid having been distributed by the main header 177, in the same direction as that of the ~~partition~~ middle section 23.

*Please replace the paragraph beginning on page 36, line 17 with the following paragraph:*

In the present embodiment, since the exhaust section AR2 of the first distillation section 25 and the enriching section AR5 of the third distillation section 27 are adjacent to each other while being separated by the ~~partition~~ bottom section 24, the exhaust section AR2 assumes the form of a semicylinder. As a result, the liquid cannot be distributed uniformly over the entire exhaust section AR2.

*Please replace the paragraph beginning on page 36, line 23 with the following paragraph:*

Thus, the main header 177 extends radially outward from a position which is located substantially at the center of the column body 70 and adjacent. to the ~~partition~~ middle section 23. Also, the main header 177 includes a connection portion 177a which is connected to the lower end of the stand pipe 155 at a position biased toward the ~~partition~~ middle section 23 from the center of the first chamber, 15A; a first arm portion 177b connected to the connection portion 177a at the far side with respect to the ~~partition~~ middle section 23; and a second arm portion 177c connected to the connection portion 177a at the near side with respect to the ~~partition~~ middle section 23. The arm tubes 178 are disposed at equal pitches. In the present embodiment, a single arm tube 178 is disposed while crossing the connection portion 177a; three arm tubes 178 are disposed while crossing the first arm portion 177b; and a single arm tube 178 is disposed while crossing the second arm portion 177c. The stand pipe 155 is disposed on the main header 177 at a position located about two-fifth the length of the main header 177 from the end of the main header 177 which faces the ~~partition~~ middle section 23.

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*Please replace the paragraph beginning on page 38, line 7 with the following paragraph:*

Since the main header 177 is connected to the lower end of the stand pipe 155 at a position biased toward the ~~partition~~ middle section 23 from the center of the first chamber 15A, a pressure loss associated with flow resistance within the main header 177 is made the same among the arm tubes 178.

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*Please replace the paragraph beginning on page 41, line 22 with the following paragraph:*

In the coupling-type distillation column 10, since the partitions <u>sections</u> 22-24 are disposed in the fourth section 14, the fifth section 15, and the sixth section 16, respectively, a difference in pressure loss is likely to arise between the first chamber 14A and the second chamber 14B and between the first chamber 16A and the second chamber 16B. Thus, second through fourth embodiments of the present invention select packings so as to prevent arising of a difference in pressure loss between the first chamber 14A and the second chamber 14B and between the first chamber 16A and the second chamber 16B. The second through the fourth embodiments will next be described.

*Please replace the paragraph beginning on page 50, line 6 with the following paragraph:*

The distributor 261 includes an open static-pressure-type stand pipe 255, which opens upward, extends vertically, and is adapted to establish a predetermined head through accumulation of liquid discharged from the discharge pipe 253; a main header 277, which serves as the first distribution section for distributing liquid in a direction perpendicular to the ~~partition~~ <u>top section</u> 22; and a plurality of arm tubes 278, which are connected to the main header 277 and serve as the second distribution section for distributing liquid having been distributed by the main header 277, in the same direction as that of the ~~partition~~ <u>top section</u> 22. Accordingly, the liquid can be distributed uniformly over the entire fourth section.

*Please replace the paragraph beginning on page 51, line 13 with the following paragraph:*

The main header 277 extends across and over the ~~partition~~ top section 22 and includes a first arm portion 277a extending toward the first chamber 14A and a second arm portion 277b extending toward the second chamber 14B. The lower end of the stand pipe 255 is connected to the center of the main header 277. An end of the first arm portion 277a and that of the second arm portion 277b are each closed with an end plate 277c. Accordingly, a liquid head established in the stand pipe 255 is transmitted uniformly within the main header 277. A plurality of holes 281 are formed in the bottom of the main header 277.

*Please replace the paragraph beginning on page 54, line 12 with the following paragraph:*

The distributor 361 (362) includes an open static-pressure-type stand pipe 375 (376), which opens upward, extends vertically, and is adapted to establish a predetermined head through accumulation of liquid discharged from the discharge pipe 353 (354); a main header 377 (379), which serves as the first distribution section for distributing liquid in a direction perpendicular to the ~~partition~~ top section 22; and a plurality of arm tubes 378 (380), which are connected to the main header 377 (379) and serve as the second distribution section for distributing liquid having been distributed by the main header 377 (379), in the same direction as that of the ~~partition~~ top section 22. Accordingly, the liquid can be distributed uniformly over the entire fourth section 14.

*Please replace the paragraph beginning on page 55, line 8 with the following paragraph:*

In this case, a distributor 331 assumes a two-level structure and includes main headers 337 and 338, which serve as the first distribution section for distributing liquid in a direction perpendicular to the ~~partition~~ top section 22 (FIG. 26) ; and a plurality of arm tubes 339 and 340, which are connected to the main headers 337 and 338, respectively, and serve as the second distribution section for distributing liquid having been distributed by the main headers 337 and 338, in the same direction as that of the ~~partition~~ top section 22. Accordingly, the liquid can be distributed uniformly over, the entire fourth section 14 (FIG. 21). Notably, the positions of the arm tubes 339 and 340 are established such that the arm tubes 340 are not disposed under unillustrated holes formed in the arm tubes 339. Reference numeral 225 denotes a stand pipe.

*Please replace the paragraph beginning on page 56, line 18 with the following paragraph:*

In this case, a distributor 381 assumes a one-sided two-level structure; specifically, the distributor 381 assumes a single-level structure on the side of the first chamber 14A (FIG. 21) while assuming a two-level structure on the side of the second chamber 14B. The distributor 381 includes main headers 387-389, which serve as the first distribution section for distributing liquid in a direction perpendicular to the ~~partition~~ top section 22; and a plurality of arm tubes 391-393, which are connected to the main headers 387-389 and serve as the second distribution section far distributing liquid having been distributed by the main headers 337-389, in the same direction as that of the ~~partition~~ top section 22. Accordingly, the liquid can be distributed uniformly over the entire fourth section 14. The present. embodiment is applied to the case where an

established distribution ratio is significantly imbalanced. Notably, the positions of the arm tubes 392 and 393 are established such that the arm tubes 393 are not disposed under unillustrated holes formed in the arm tubes 392. Reference numeral 225 denotes a stand pipe.

*Please replace the paragraph beginning on page 59, line 13 with the following paragraph:*

In this case, the collector 462 includes a column body 70; a ~~partition~~ middle section 23 for dividing a fifth section 15 in the column body 70 into a semispherical first chamber 15A and a semispherical second chamber 15B; a collector box 72 for farming a liquid collection gutter 491 along the inner wall of each of the column body 70 and the ~~partition~~ middle section 23; a lamina support 492 extending an the collector box 72; and a plurality of collector laminas 493 and 494 disposed along the lamina support 492 at predetermined pitches and in parallel with one another. As shown in FIG. 32, the collector laminas 493 and 494 extend on an inner circumferential wall 72a of the collector box 72 between the column body side of the wall 72a and the partition side of the wall 72a and in a direction perpendicular to the ~~partition~~ middle section 23.

*Please replace the paragraph beginning on page 60, line 16 with the following paragraph:*

One end of each of the gutter portions 475 faces the column body side of the liquid collection gutter 491 while the other end of each of the gutter portions 475 faces the partition side of the liquid collection gutter, 491. Thus, liquid collected in the gutter portions 475 is transmitted to the liquid collection gutter 491 from the column body 70

side or the ~~partition~~ middle section 23 side of the gutter portions 475. At a portion of the liquid collection gutter 491 which is located the farthest from the ~~partition~~ middle section 23, a feed nozzle 41 is connected to the column body 70, and a liquid draw nozzle 495 is connected to the collector box 72. The collector 465 assumes a structure similar to that of the collector 462. At a portion of the liquid collection gutter 491 which is located the farthest from the ~~partition~~ middle section 23, a side cut nozzle 42 is connected to the column body 70, and a liquid draw nozzle 495 is connected to the collector box 72.

*Please replace the paragraph beginning on page 61, line 5 with the following paragraph:*

In this case, the column body 70, the ~~partition~~ middle section 23, and the collectors 462 and 465 constitute a liquid collection unit.

*Please replace the paragraph beginning on page 63, line 18 with the following paragraph:*

In this case, the first chamber, 15A of the fifth section 15 (FIG. 30) includes a lamina-type collector 562 disposed just above the feed nozzle 41 and a tubular distributor 563 disposed just under the feed nozzle 41. Liquid collected by the collector, 562, together with the material liquid M fed through the feed nozzle 41, is fed to the first chamber 16A of the sixth section 16 by means of the distributor 563. The distributor 563 includes an open static-pressure-type liquid collection pipe 563a; a main header 563b connected to the liquid collection pipe 563a and extending in a direction perpendicular to the ~~partition~~ middle section 23; and a plurality of arm channels 563c connected to the main header 563b and extending in parallel with the ~~partition~~ middle section 23 (in a direction perpendicular to paper of FIG. 36 and extending away from the

A19 back side of the paper). A plurality of unillustrated holes are formed in the arm channels 563c.

*Please replace the paragraph beginning on page 64, line 7 with the following paragraph:*

The second chamber 15B of the fifth section 15 includes a lamina-type collector 565 disposed just above the side cut nozzle 42 and a tubular distributor 566 disposed just under the side cut nozzle 42. Liquid collected by the collector 565 is discharged as a product from the side cut nozzle 42 and fed to the second chamber 16B of the sixth section 16 by means of the distributor 566. The distributor 566 includes an open static-pressure-type liquid collection pipe 566a; a main header 566b connected to the liquid collection pipe 566a and extending in a direction perpendicular to the ~~partition~~ middle section 23; and a plurality of arm channels 566c connected to the main header 566b and extending in parallel with the ~~partition~~ middle section 23 (in a direction perpendicular to paper, of FIG. 36 and extending away from the back side of the paper). A plurality of unillustrated holes are formed in the arm channels 566c.

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*Please replace the paragraph beginning on page 64, line 21 with the following paragraph:*

As shown in FIG. 35, the collectors 562 and 565 include a column body 70; a ~~partition~~ middle section 23 for dividing the fifth section 15 in the column body 70 into a semi-spherical first chamber 15A and a semispherical second chamber 15B; a collector box 72 for forming a liquid collection gutter 591 along the inner wall of each of the column body 70 and the ~~partition~~ middle section 23; a lamina support 592 extending on the collector box 72; and a plurality of collector laminas 593 disposed along the lamina

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support 592 at predetermined pitches and in parallel with one another. As shown in FIG. 37, the collector laminas 593 extend on an inner circumferential wall 72a of the collector box 72 between the column body side of the wall 72a and the partition side of the wall 72a and in a direction perpendicular to the ~~partition~~ middle section 23.

*Please replace the paragraph beginning on page 65, line 19 with the following paragraph:*

One end of each of the gutter portions 575 face, the column-body-side portion 591a of the liquid collection gutter 591 while the other end of each of the gutter portions 575 faces the partition-side portion 591 b of the liquid collection gutter 591. Thus, liquid collected in the gutter portions 575 is transmitted to the liquid collection gutter 591 from the column body 70 side or the ~~partition~~ middle section 23 side of the gutter portions 575. At a portion of the liquid collection gutter 591 which is located the farthest from the ~~partition~~ middle section 23, the feed nozzle 41 is connected to the column body 70, and a liquid draw nozzle 595 is connected to the collector box 72. The collector 565 assumes a structure similar to that of the collector 562. At a portion of the liquid collection gutter 591 which is located the farthest from the ~~partition~~ middle section 23, the side cut nozzle 42 is connected to the column body 70, and a liquid draw nozzle 595 is connected to the collector box 72.

*Please replace the paragraph beginning on page 66, line 8 with the following paragraph:*

In this case, the column body 70, the ~~partition~~ middle section 23, and the collectors 562 and 565 constitute a liquid collection unit.

*Please replace the paragraph beginning on page 68, line 8 with the following paragraph:*

Meanwhile, the column body 70 constitutes the fifth section 15. For connection between the column body 70 and the fourth section (hereinafter, called an "upper column body") 14, an annular flange 596 is formed at the upper end of the column body 70, and an unillustrated annular flange is formed at the lower end of the upper column body, both in such a manner as to project radially outward. An annular stepped portion 597 is formed on the upper surface of the flange 596 along an inner circumferential edge of the flange 596. Also, an engagement portion 23a is formed in the vicinity of the upper end of the ~~partition~~ middle section 23 in such a manner as to radially project into the first and second chambers 14.4 and 14B.

*Please replace the paragraph beginning on page 68, line 22 with the following paragraph:*

The collectors 562 and 565 are preassembled into a single unit. The thus assembled collectors 562 and 565 are installed in place such that the engagement flange 72b rests on the stepped portion 597 and the engagement portion 23a; i.e., the upper end of the collector box 72 rests on the upper end of the column body 70 and on the ~~partition~~ middle section 23. While a gasket 598 is placed on the ~~partition~~ middle section 23, the flange 596 and the flange of the upper column body are connected by means of bolts or the like. In the collectors 562 and 565 can be easily mounted on the column body 70. Assuming a shape corresponding to the column body 70 and the ~~partition~~ middle section 23, the gasket 598 seals the upper end of the collector composed of a portion 598a corresponding to the column body 70 and extending

circumferentially and a portion 598b corresponding to the ~~partition~~ middle section 23 and extending diametrally.